"PATENTS"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
LISA A. WINDOVER	)	
	)	Group Art Unit: 2633
SERIAL NO.: 10/080,944	)	
	)	
FILED: 22 February 2002	)	Examiner: Agustin Bello
	)	
FOR: STRUCTURE AND APPARATUS FOR A VERY SHORT HAUL, FREE SPACE, AND FIBER OPTIC INTERCONNECT AND DATA LINK	)	Conf. No.: 6545

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Inventors' Declaration Under 37 CFR 1.131

We, Lisa A. Windover (nee, Buckman), Frank H. Peters, and Brian E. Lemoff, the named inventors in the above-identified patent application, hereby declare as follows:

1. We are the true and joint inventors of the invention described and claimed in U.S. patent application Serial No.: 10/080,944, filed 22 February 2002.
2. We conceived of the invention at least prior to 9 May 2001, as shown in the attached copy of an Invention Disclosure, which bears a date (redacted) prior to 9 May 2001.
3. We diligently reduced the invention to practice by filing a patent application on 22 February 2002, as evidenced by the Filing Receipt (of record), and documents attached:

a. Request from counsel (Ian Hardcastle) for our common employer, Agilent Technologies, Inc., to outside counsel, Lawrence A. Maxham, for a quote on preparing the patent application, dated 5 January 2001.

b. Approved quote from Mr. Hardcastle dated 19 January 2001.

c. Notes from the file of outside counsel, dated 21 February 2001, of a meeting with inventor, Lisa Windover (then Lisa Buckman), on that date, which truly reflects the discussion of this invention and accurately comports with Ms. Buckman's memory of that meeting.

d. A facsimile dated 26 February 2001, to inventor, Lisa Buckman concerning the disclosure meeting of 21 February 2001.

e. A prior art search was conducted by Lisa Buckman on 27 July 2001 for a patent by Larry A. Coldren and Syn-Yem Hu entitled "Direct-Coupled Multimode WDM Optical Data Links With Monolithically-Integrated Multiple-Channel VCSEL and Photodetector Arrays" (patent 6,195,485). The front page from that search is attached. This reference was cited to the USPTO in an IDS.

f. Letter dated 7 September 2001 to inventor, Lisa Buckman, from Mr. Maxham, with draft of patent application.

g. Copy of above letter of 7 September 2001 with Ms. Buckman's handwritten transmittal note of comments the inventors had on the draft patent application, dated 19 September 2001.

h. It was at that time that Mr. Peters and Ms. Buckman, in consultation with patent attorney, Mr. Hardcastle, and Mr. Lemoff, determined that Mr. Lemoff was also a co-inventor. This is reflected on the attached copy of the first page of the revised draft as returned to Mr. Maxham on 19 September 2001, received by him on 24 September 2001.

i. A revised draft of the application was sent to Ms. Buckman, as evidence by the attached letter of 12 October 2001.

j. A further revised version of the draft patent application was sent to Ms. Buckman on 13 November 2001 as shown by the attached transmittal letter of that date.

k. On 12 December 2001, by means of a telephone conversation between Ms. Buckman and Mr. Maxham, further changes were requested to be made to the application, most notably to add a focusing lens on the receiver side. This is from memory of Ms. Buckman and is evidenced by the attached telephone note sheet of that date from Mr. Maxham's file.

l. The completed application, with formal papers for signature, were sent to Ms. Buckman on 14 December 2001 by Federal Express, as evidenced by the transmittal letter of that date from Mr. Maxham.

m. An e-mail, dated 9 January 2002, from Ms. Buckman to Mr. Maxham indicated some further changes, and that Mr. Peters was no longer in the employ of Agilent Technologies.

n. By facsimile dated 11 January 2002, Mr. Hardcastle requested a revised set of papers to accompany the revised patent application.

o. By letter dated 11 January 2002 from The Maxham Firm, a further revised version of the application was sent to Ms. Buckman.

p. By letter dated 19 February 2002 from Legal Administrator, Linda Iimura, the duly executed patent application was sent to Mr. Maxham for filing.

q. The application was filed on 22 February 2002, as evidenced by the attached receipted postcard and the transmittal letter, both showing acknowledgment by the Office.

We declare that all statements made herein of our own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 2/6/06 Lisa A. Windover

Lisa A. Windover

Date: ~~2/13/06~~

Frank H. Peters

Date: 2/13/06 Brian E. Lemoff

Brian E. Lemoff

Agilent Technologi...

(2)

INVENTION DISCLOSURE

PDNO 10004353 DATE RCVD [redacted] ATTORNEY IH

PAGE ONE OF ____ Corr /OCMD

*Instructions: The information contained in this document is **COMPANY CONFIDENTIAL** and may not be disclosed to others without prior authorization. Submit this disclosure to the Agilent Technologies Legal Department as soon as possible. No patent protection is possible until a patent application is authorized, prepared, and submitted to the Government.*

Descriptive Title of Invention: ~~A~~ LARGE VCSEL ARRAY COMPRISING PIXELS WITH MULTIPLE VCSELS AT DIFFERENT WAVELENGTHS

Name of Project:

Product Name or Number:

Was a description of the invention published, or are you planning to publish? If so, the date(s) and publication(s):

Was a product including the invention announced, offered for sale, sold, or is such activity proposed? If so, the date(s) and location(s):

Was the invention disclosed to anyone outside of AGILENT TECHNOLOGIES, or will such disclosure occur? If so, the date(s) and name(s):

If any of the above situations will occur within 3 months, call your IP attorney or the Legal Department now at 1-553-3061 or 408-553-3061.

Was the invention described in a lab book or other record? If so, please identify (lab book #, etc.)

Was the invention built or tested? If so, the date:

Was this invention made under a government contract? If so, the agency and contract number:

Description of Invention: *Please preserve all records of the invention and attach additional pages for the following. Each additional page should be signed and dated by the inventor(s) and witness(es).*

A. Prior solutions and their disadvantages (if available, attach copies of product literature, technical articles, patents, etc.).
B. Problems solved by the invention.
C. Advantages of the invention over what has been done before.
D. Description of the construction and operation of the invention (include appropriate schematic, block, & timing diagrams; drawings; samples; graphs; flowcharts; computer listings; test results; etc.)

Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [ ].

Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name
	LISA A. BUCKMAN	Lisa Buckman			
	FRANK H. PETERS	Frank H. Peters			
M					

(If more than four inventors, include additional information on another copy of this form and attach to this document)

Invention Disclosure DD

Writer: Lisa Buckman
Inventor(s): Lisa Buckman and Frank H. Peters

Title: A large VCSEL array comprising pixels with multiple VCSELs at different wavelengths

Problem: Free space optical interconnects typically use an array of transmitters and an array of detectors to create a very high bandwidth, short distance interconnect. The interconnect capacity is limited by the speed of each transmitter/detector and how closely spaced the pixel elements (VCSELs/detectors) may be placed due to optical crosstalk. A 2D array of vertical-cavity surface-emitting lasers (VCSELs) may also be coupled into a 2D array of optical fibers that would then be routed to a 2D array of detectors. In this case, the total capacity of the link would also be limited by the speed per channel and how closely packed the pixel elements may be placed and still couple into the fiber array with minimal crosstalk. In order to increase the total capacity of a 2D free space optical interconnect or a 2D fiber optic link, each pixel contains VCSELs/detectors at more than one wavelength. By using multiple VCSELs and detectors in each pixel of the array, multiple channels of independent data may be transmitted over the same optical channel that is either in free space or in an optical fiber. The total capacity of a 2D optical interconnect is increased by the number of wavelengths that are used in each pixel.

Invention: Use a tightly packed array of VCSELs with each VCSEL at a different wavelength and each carrying independent data streams. The VCSELs are spaced close enough in space that they would interfere in free space if they were at the same wavelength. The VCSELs are spaced close enough in space that they may be coupled into the same optical waveguide. Each pixel of the large array of VCSELs would be one of these tightly packed arrays of VCSELs creating a 2D array of wavelength division multiplexed links.

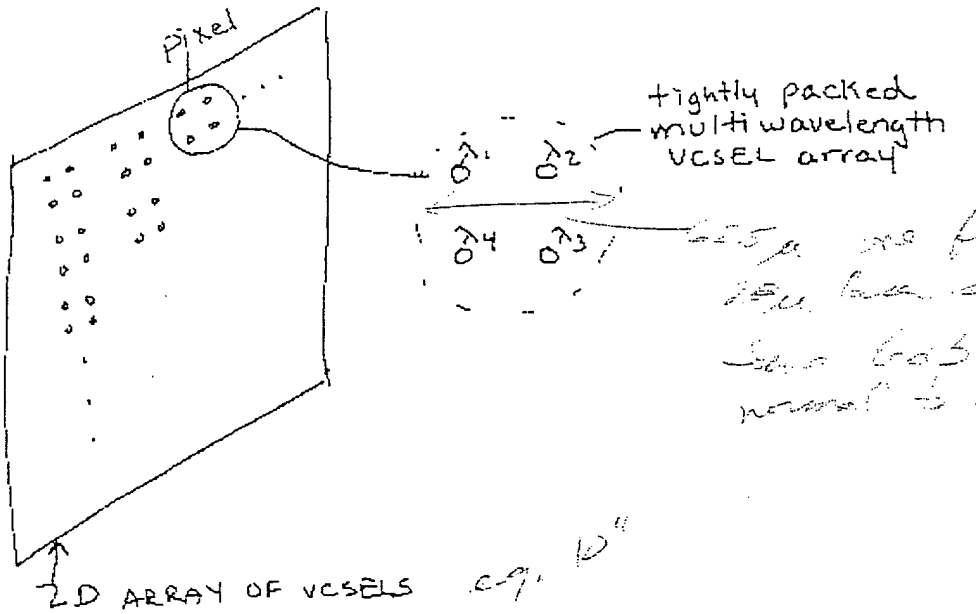
Details:
In order to increase the total capacity of a 2D free space optical interconnect or a 2D fiber optic link, each pixel contains VCSELs/detectors at more than one wavelength. By using multiple VCSELs and detectors in each pixel of the array, multiple channels of independent data may be transmitted over the same optical channel that is either in free space or in an optical fiber. The total capacity of a 2D optical interconnect is increased by the number of wavelengths that are used in each pixel. The use of the tightly packed multiwavelength array of VCSELs/detectors for each optical channel enables wavelength-division multiplexing without using an optical multiplexer and demultiplexer. This simplifies the WDM channel and reduces the number of components. The physical proximity of the mutliwavelength devices multiplexes the light into the same optical channel. In the free space interconnect, the light would need to be collimated from each tightly packed array so that the light does not diverge before the detector array. The 2D detector array would have a detector capable of detecting each of

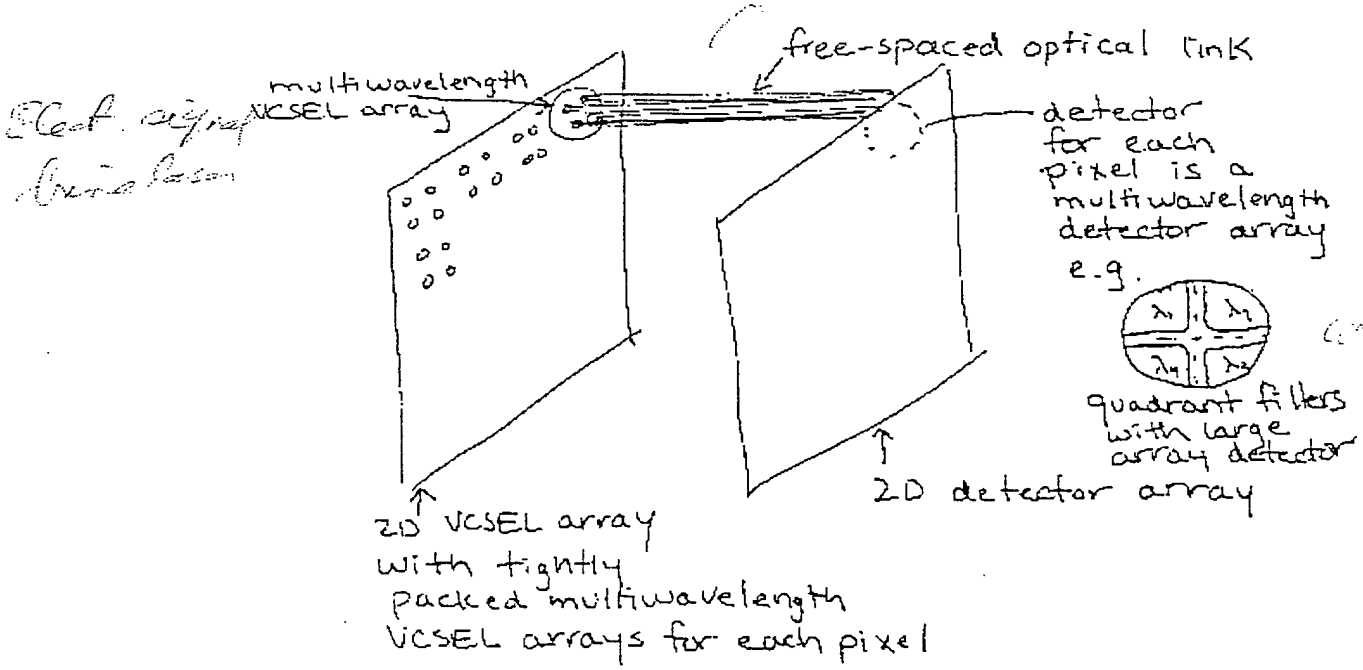
the wavelengths in each pixel. An example would be to have a quadrant detector (for the case of 4 wavelengths) which has each quadrant electrically isolated from the others. Each quadrant would have an optical filter to select the wavelength of interest. In this example, each quadrant would detect one quarter of the light for each wavelength. In a 2D fiber optic link, the light from each tightly packed WDM array of VCSELs would be coupled into one fiber. The complete optical interconnect would consist of a 2D array of fibers. The output of each fiber would be imaged onto a multiwavelength detector as mentioned previously.

INVENTION DISCLOSURE DD:

WRITER: LISA BUCKMAN

INVENTORS: LISA BUCKMAN AND FRANK H. PETERS





Agilent Technologies, I.
1601 California Avenue, MS 17L-5A
Palo Alto, California 94304

Agilent Technologies
Innovating the HP Way

January 5, 2001

Lawrence A. Maxham
Baker & Maxham
Symphony Towers
750 "B" Street, Suite 3100
San Diego, CA 92101

Re: Preparation and Filing of Patent Application
Pursuant to Outside Counsel Procedures dated October 15, 1999
Agilent Invention Disclosure PD No. 10004353-1
Entitled: "A Large VCSEL Array Comprising Pixels with Multiple VCSELs at Different Wavelengths"
Inventor(s): Lisa Buckman and Frank Peters
Agilent Required Receipt Date: July 1, 2001

Dear Larry:

We would like you to provide us with a quote of the cost for your firm to prepare a US patent application based on the Agilent invention disclosure identified above, a copy of which is enclosed. Your quote should be based on preparing and supplying us with the completed application, including formal drawings by the Agilent required receipt date stated above.

Your quote should be submitted on the enclosed Request for Quote And Engagement Letter Agreement. If your quote is accepted, we will return a fully executed copy of the Agreement to you for your records. **The Agreement will not be binding on you or on Agilent until signed by Agilent's authorized representative.**

If this Agreement is not signed and returned to Agilent, any bills submitted by you cannot be paid.

Thank you for your assistance in reviewing the invention disclosure. If your review indicates a possible conflict for your firm, you should advise us within one week of receipt of this letter.

Sincerely yours,

Ian Hardcastle
Counsel

Enc: Invention Disclosure

(b)

Request for Quote and Engagement Letter Agreement

RE: Agilent Technologies Docket No. 10004353-1

USSN:

X This is a request for a quote for the following services:
___ This is a confirmation of your quote for the following services:

PREPARE

X Application
___ Response
___ Other _____

X File with USPTO
___ Return to Agilent for filing

X **YOUR FINISHED PRODUCT TO AGILENT SHOULD INCLUDE ALL ITEMS ON THE ENCLOSED CHECKLIST.**

AGILENT REQUIRED DATES: June 15, 2001 Date for Receipt by Agilent
July 1, 2001 Date to be Filed in PTO

Agilent Attorneys of Record: (to be included on the Declaration)

Customer Number 022878

Agilent Primary Technical Contact: Lisa Buckman

Telephone No.: (650) 485-3957 **FAX No.:**

Agilent Entity: CORL/COMD

Address: 3500 Deer Creek Road, M/S 26U-7
Palo Alto, CA 94304

ADDITIONAL TERMS OR INSTRUCTIONS:

TOTAL PRICE: $9240, (including Formal drawings)

I agree to the terms of this Agreement including the additional terms above, pursuant to the Agilent Procedures for Outside Counsel revised **OCTOBER 15, 1999**, a copy of which I have received and reviewed. This Agreement will not be binding on either party until signed by an authorized representative of Agilent.

BAKER & MAXHAM

By: Lawrence A. Maxham
Lawrence A. Maxham

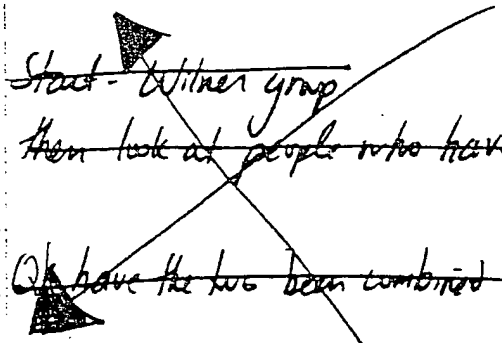
Dated: 1/19/01

AGILENT TECHNOLOGIES

By: _____
Ian Hardcastle

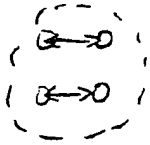
Dated: 01/19

Rev 10/00 (ELA)



~~Start - Witner group~~
~~then look at people who have done DOE's.~~
~~Ok have the two been combined~~

4353



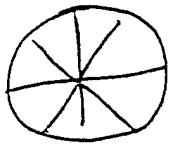
4 lasers in close proximity
you can then combine 4 lasers into 1 signal with no 6DB loss

EMB2 - Fiber
you could replace free space with fiber - with some loss. (usually 10%)
combiner loss - usually 6DB
splitter loss - usually 6DB

EMBODIMENT 1 - free space

References:

VCSB Coldren, Larry - professor who has worked with VCSEL - most famous arrays of Diff. wavelengths



Berkley Connie Chang - Hasnain
VCSEL work

Ag. 2568-9 2/21/01
4353 –

Maybe add Brian Landoff as inventor.

No filter. But if use filter between last 2, have 6db loss (whole beam at all λ, then split)

UCSB — Larry Coldren
VCSEL arrays – founder

Connie Chang-Hasnain
UCBerkeley.

light would be used to go board to board (free space or Fiber) to send signal.

example of 10".
Standard rack width = 19" prob. would not be more than this

BAKER & MAXHAM
A PROFESSIONAL LAW CORPORATION

FRELING E. BAKER
LAWRENCE A. MAXHAM

BLAKE A. O'NEILL

MICHAEL P. EDDY
Of Counsel

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SAN DIEGO, CALIFORNIA 92101
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URL http://www.bakermaxham.com

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26 February 2001

VIA FACSIMILE – 650-485-7514

Lisa Buckman
AGILENT TECHNOLOGIES, INC.
3500 Deer Creek Road, M/S 26U-7
Palo Alto, California 94304

Re: Agilent Invention Disclosure PD No. 10004353-1
Entitled: "LARGE VCSEL ARRAY COMPRISING PIXELS WITH MULTIPLE VCSELs AT A DIFFERENT WAVELENGTHS"
Inventor(s): L. Buckman and F. Peters
Our Ref: 2568-009 LAM

Dear Lisa:

Thank you for taking the time to meet with me and Mike Eddy on 21 February 2001. I believe our time together was very valuable and will enable us to go forward on this application.

We discussed several aspects of this invention, including some alternatives of the detector arrays and VCSEL arrays.

This invention in general contemplates that there is no optical fiber between the VCSEL and the detector but one could be used between the two arrays. This would lead to a 6db loss, which would be acceptable under many circumstances.

The reference sources you mentioned are Larry Coldren of UCSB and Connie Chang-Hasnain of U.C. Berkeley.

You suggested this Brian Lemoff may need to be added as inventor. We will explore that as we proceed to write this application.

For your information, we are enclosing a copy of the Disclosure.

Because our required date for filing this patent application is 1 July 2001 and we must have the completed application for inventors' review by 15 June 2001, we would appreciate receiving any further information you may be able to provide by 15 March 2001. We will be in touch with you as we need further information in order to get this application in condition for filing.

Sincerely,

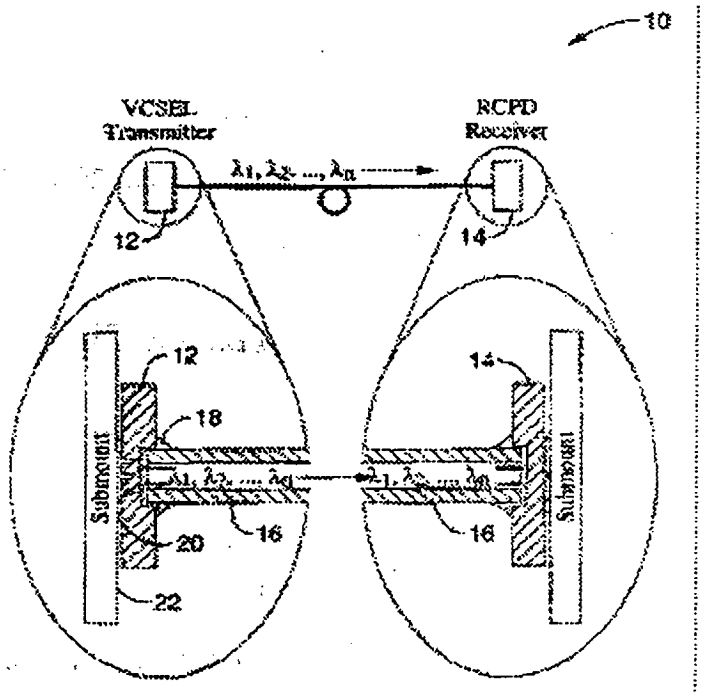
BAKER & MAXHAM

Lawrence A. Maxham

LAM:ldf
Enclosure

MicroPatent® PatSearch FullText: Record 1 of 1

Search scope: US EP WO JP; Full patent spec.
Years: 1971-2001
Text: Patent/Publication No.: 6195485



Go to first matching text

US6195485

Direct-coupled multimode WDM optical data links with monolithically- integrated multiple-channel VCSEL and photodetector

The Regents of the University of California
Inventor(s): ;Coldren, Larry A. ;Hu, Syn-Yem
Application No. 09/425542, **Filed** 19991022, **Issued** 20010227

Abstract:

THE MAXHAM FIRM
A PROFESSIONAL LAW CORPORATION

LAWRENCE A. MAXHAM

BLAKE A. O'NEILL
IAN L. CARTIER

MICHAEL P. EDDY
Of Counsel

SYMPHONY TOWERS
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(F)

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7 September 2001

Delivered Via Airborne Express

Lisa Buckman
Agilent Technologies, Inc.
3500 Deer Creek Road, M/S 26U-7
Palo Alto, California 94304

Re: Agilent Invention Disclosure PD No. 10004353-1
Entitled: "LARGE VCSEL ARRAY COMPRISING PIXELS WITH MULTIPLE VCSELs AT A DIFFERENT WAVELENGTHS"
Inventor(s): L. Buckman and F. Peters
Our Ref: 2568-009

Dear Lisa:

Here is the above-identified patent application for your review, with Mr. Peters, before we complete it for your signature. Please go over it carefully for technical accuracy.

We would appreciate receiving your comments and corrections as soon as possible.

Sincerely,

THE MAXHAM FIRM

Lawrence A. Maxham

LAM:lmc
Enclosures
cc: Ian Hardcastle
(w/out enclosure)

L:\2568\009\LBuckman.doc

(9)

THE MAXHAM FIRM

A PROFESSIONAL LAW CORPORATION

LAWRENCE A. MAXHAM

BLAKE A. O'NEILL
IAN L. CARTIER

MICHAEL P. EDDY
Of Counsel

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RECEIVED
SEP 24 2001
THE MAXHAM FIRM

7 September 2001

Delivered Via Airborne Express

Lisa Buckman
Agilent Technologies, Inc.
3500 Deer Creek Road, M/S 26U-7
Palo Alto, California 94304

Re: Agilent Invention Disclosure PD No. 10004353-1
Entitled: "LARGE VCSEL ARRAY COMPRISING PIXELS WITH MULTIPLE VCSELs AT A DIFFERENT WAVELENGTHS"
Inventor(s): L. Buckman and F. Peters
Our Ref: 2568-009

Dear Lisa:

Here is the above-identified patent application for your review, with Mr. Peters, before we complete it for your signature. Please go over it carefully for technical accuracy.

We would appreciate receiving your comments and corrections as soon as possible.

Sincerely,

THE MAXHAM FIRM

Lawrence A. Maxham

LAM:lmc
Enclosures
cc: Ian Hardcastle
(w/out enclosure)

Sept. 19, 2001
Please see enclosed comments
Thanks,
Lisa

L:\2568\009\L.Buckman.doc

Inventors Frank Peters; and Brian Lemoff (N)

STRUCTURE AND APPARATUS FOR A VERY SHORT HAUL, FREE SPACE OPTICAL INTERCONNECT AND DATA LINK

Rec'd 9/24/01 from L. Buckman

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to optical communication systems, and more particularly to an improved structure and apparatus for a low-cost, high-performance, free space optical interconnect and data link.

could be fiber too

If use array of fibers

2. Discussion of the Prior Art

Optical systems are presently being used for high bandwidth, high-speed voice and video communications. As a result, optical systems are one of the fastest growing constituents in the communications systems market. The expression "optical system," as used herein, relates to any system that uses an optical signal to transport data and or application content across an optical medium. Previously, most optical systems were configured as single channel systems carrying a single wavelength over an optical medium such as a fiber optic cable or some form of free space interconnect. As the demand for broadband services grows, the increase in traffic has led to a need for greater channel carrying capacity. Due to the high cost of expanding the transport facilities of an optical communications or network system, increasing the capacity by laying more cable, for example, is generally impractical. Thus, it has become important to develop a technique that could expand the channel-carrying capacity of these existing facilities.

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12 October 2001

Lisa Buckman
Agilent Technologies, Inc.
3500 Deer Creek Road, M/S 26U-7
Palo Alto, California 94304

Re: Agilent Invention Disclosure PD No. 10004353-1
Entitled: "STRUCTURE AND APPARATUS FOR A VERY SHORT HAUL, FREE SPACE AND FIBER OPTICAL INTERCONNECT AND DATALINK"
Inventor(s): L. Buckman, F. Peters and B. Lemoff
Our Ref: 2568-009

Dear Lisa:

Here is the revised patent application for your review, with Mr. Peters and Mr. Lemoff, before we complete it for your signature. Please go over it carefully for completeness and technical accuracy. The drawings were revised in rough form to incorporate the changes we discussed. We will have the formal drawings made as soon as we have your inputs.

The prior art we previously identified will be filed in the USPTO with the application, as we normally do.

We would appreciate receiving your comments and corrections as soon as possible.

Sincerely,

THE MAXHAM FIRM

Lawrence A. Maxham

LAM:lmc
Enclosures
cc: Ian Hardcastle
(w/o enclosures)

\\SBSERVER\client\2568\009\LBuckman.doc

THE MAXHAM FIRM
A PROFESSIONAL LAW CORPORATION

LAWRENCE A. MAXHAM

BLAKE A. O'NEILL

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(J)

13 November 2001

Via Federal Express

Lisa Buckman
Agilent Technologies, Inc.
3500 Deer Creek Road, M/S 26U-7
Palo Alto, California 94304

Re: Agilent Invention Disclosure PD No. 10004353-1
Entitled: "STRUCTURE AND APPARATUS FOR A VERY SHORT HAUL, FREE SPACE AND FIBER OPTICAL INTERCONNECT AND DATALINK"
Inventor(s): L. Buckman, F. Peters and B. Lemoff
Our Ref: 2568-009

Dear Lisa:

Here is the finally revised patent application. The drawings are in preparation, so the rough ones are included here. You will see the formal drawings when we have your final approval, although we may be able to send to you by fax earlier.

Please call, fax or e-mail your final approval or changes.

We will then prepare the formal papers for you, Frank Peters and Brian Lemoff to sign.

Sincerely,

THE MAXHAM FIRM

Lawrence A. Maxham

LAM:aml
Enclosures
Cc: Ian Hardcastle (w/o encl.)

L:\2568\009\LBuckman1.doc

(K)

12/12/01

AG 2568-9
t/c Lisa Buckman —
4353

Few minor questions

Add focusing lens on rcvr side - in free space maybe or w/fiber

called Bart re dwg.

THE MAXHAM FIRM
A PROFESSIONAL LAW CORPORATION

LAWRENCE A. MAXHAM
BLAKE A. O'NEILL

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14 December 2001

Via Federal Express

Lisa Buckman
Agilent Technologies, Inc.
3500 Deer Creek Road, M/S 26U-7
Palo Alto, California 94304

Re: Agilent Invention Disclosure PD No. 10004353-1
Entitled: "STRUCTURE AND APPARATUS FOR A VERY SHORT HAUL, FREE SPACE, AND FIBER OPTIC INTERCONNECT AND DATALINK"
Inventor(s): L. Buckman and F. Peters
Our Ref: 2568-009

Dear Lisa:

Enclosed is the completed patent application for this invention, together with the formal papers for execution by you and Mr. Peters.

The Declaration should be signed and dated by you at the bottom of page 1 and Mr. Peters should likewise execute it at the top of page 2. The same is true of the Assignment. Please use blue ink for signing the papers.

Please return all papers to us for filing the patent application in the United States Patent And Trademark Office (USPTO).

Sincerely,

THE MAXHAM FIRM

Larry

Lawrence A. Maxham

LAM:aml
Enclosures
Cc: Ian Hardcastle (w/o encl.)

J:\2568\009\LBuckman1.doc

Larry Maxham

From: lisa_buckman@agilent.com
Sent: Wednesday, January 09, 2002 6:47 PM
To: lmaxham@maxhamfirm.com
Subject: patent application 10004353-1

Larry,
I looked over the "final" version of the patent application and had just a
few of minor corrections.
I went ahead and signed the application and assignment since the corrections
are minor.
However, Frank Peters no longer works at Agilent so I am not sure what to do
about his signature.
I have emailed Ian Hardcastle to find out what we should do about this.
Also, you forgot to add Brian Lemoff to the inventor list on this copy. I
went ahead and had him sign the application and assignment also.

I will wait to send this back to you until I find out what we should do
about Frank's signature.

Lisa

****
Lisa Buckman, Ph.D.
Agilent Laboratories
3500 Deer Creek Rd., MS 26M-9
Palo Alto, CA 94304-1392

phone: (650) 485-3957
FAX: (650) 485-3626
email: lisa_buckman@agilent.com
****

Agilent Technologies

Agilent Technologies Inc.
1601 California Ave., MS 17L-5A
Palo Alto, California 94304

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www.agilent.com

Facsimile

RECEIVED
JAN 11 2002
THE MAXHAM FIRM

To:	Larry Maxham	**Date:**	11 January 2002
Entity:	The Maxham Firm	**Fax No.:**	619 544 1246
From:	Ian Hardcastle	**Telephone:**	619 233 9004
Subject:	see below	**Total pages:**	27

Re: New United States patent application for *Structure and Apparatus for a Very Short Haul, Free Space and Fiber Optic Interconnect and Data Link*
Your ref: 2568-009
Our file: 10004353-1

Dear Larry,

As promised in my voice mail message this morning, here is the above application in which the inventors have marked a number of minor changes. I'd appreciate it if you'd have the changes made, generate a new final draft and new execution papers and send them to Dr. Buckman for re-execution.

Frank Peters is no longer with Agilent, but I will ask my administrative assistant to make contact with him to obtain his signature on the papers.

Yours sincerely,

Ian Hardcastle

THE MAXHAM FIRM
A PROFESSIONAL LAW CORPORATION

LAWRENCE A. MAXHAM
BLAKE A. O'NEILL
TIMOTHY W. FITZWILLIAM
Of Counsel

SYMPHONY TOWERS
750 'B' STREET, SUITE 3100
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11 January 2002

Lisa Buckman
Agilent Technologies, Inc.
3500 Deer Creek Road, M/S 26U-7
Palo Alto, California 94304

Re: Agilent Invention Disclosure PD No. 10004353-1
Entitled: "STRUCTURE AND APPARATUS FOR A VERY SHORT HAUL, FREE SPACE, AND FIBER OPTIC INTERCONNECT AND DATALINK"
Inventor(s): L. Buckman; F. Peters; B. Lemoff
Our Ref: 2568-009

Dear Lisa:

Here is the finally revised patent application and formal papers for execution by all three inventors.

The final drawing sheets are being prepared. The change on Fig. 2 will be made. We saw no others.

Sincerely,

THE MAXHAM FIRM

Lawrence A. Maxham

LAM:aml
Enclosures
Cc: Ian Hardcastle (w/o encl.)

L:\2568\009\LBuckman3.doc

Agilent Technologies Ir
1601 California Avenue
MS 17L-5A
Palo Alto, California 94304-1111

650 485 4660 telephone
650 485 5487 facsimile

Agilent Technologies
Innovating the HP Way

Linda A. Iimura
Legal Administrator
Intellectual Property Practice Group

February 19, 2002

Lawrence A. Maxham
The Maxham Firm
Symphony Towers
750 "B" Street, Suite 3100
San Diego, CA 92101

VIA EXPRESS MAIL

RE: US Patent Application
Titled: Structure and Apparatus for a Very Short Haul, Free Space and Fiber Optical Interconnect and Datalink
Agilent Docket No. 10004353-1
Your Reference: 2568-009

Dear Larry;

Attached is the executed Declaration and a copy of the executed Assignment for the above referenced application. I will file the Assignment from our offices after we receive the filing receipt.

I'm soory that it took so long to have all the inventors execute the documents. Please let me know if you need any further information.

Sincerely,

AGILENT TECHNOLOGIES, INC.

Linda Iimura

Linda A. Iimura
Legal Administrator

:li

Enclosures:

(2)

THE U.S. PATENT AND TRADEMARK OFFICE DATE STAMP HEREON
WILL ACKNOWLEDGE RECEIPT OF THE FOLLOWING:

U.S. Patent Application for: "STRUCTURE AND APPARATUS FOR
A VERY SHORT HAUL, FREE SPACE, AND FIBER OPTIC
INTERCONNECT AND DATA LINK"
APPLICANT: Lisa A. Buckman et al
Serial No.: Unknown – Filed: 22 February 2002

Enclosures:
1. Transmittal (in Duplicate) (1 page);
2. Patent Application (17 pages); Drawing (5) sheets
3. Declaration and Power of Attorney for Patent Application (2 pages);
4. Information Disclosure Statement (1 page) Form 1449 and 2 references; and
5. Return Postcard (in duplicate)

Mailed 22 February 2002 via Express Mail No. EL 898589753 US
Agilent Docket No. 10004353-1
Our File: 2568-9

THE U.S. PATENT AND TRADEMARK OFFICE DATE STAMP HEREON
WILL ACKNOWLEDGE RECEIPT OF THE FOLLOWING:

RATUS FOR
OPTIC

THE U.S. PATENT AND TRADEMARK OFFICE DATE STAMP HEREON
WILL ACKNOWLEDGE RECEIPT OF THE FOLLOWING:

U.S. Patent Application for: "STRUCTURE AND APPARATUS FOR
A VERY SHORT HAUL, FREE SPACE, AND FIBER OPTIC
INTERCONNECT AND DATA LINK"
APPLICANT: Lisa A. Buckman et al
Serial No.: Unknown – Filed: 22 February 2002

ation (2 pages);
9 and 2 references; and

Enclosures:
1. Transmittal (in Duplicate) (1 page);
2. Patent Application (17 pages); Drawing (5) sheets
3. Declaration and Power of Attorney for Patent Application (2 pages);
4. Information Disclosure Statement (1 page) Form 1449 and 2 references; and
5. Return Postcard (in duplicate)

53 US

Mailed 22 February 2002 via Express Mail No. EL 898589753 US
Agilent Docket No. 10004353-1
Our File: 2568-9

2-25-02 A 9

AGILENT TECHNOLOGIES, INC.
Legal Department, DL429
Intellectual Property Administration
P. O. Box 7599
Loveland, Colorado 80537-0599

PATENT APPLICATION

ATTORNEY DOCKET NO. 10004353-1

IN THE U.S. PATENT AND TRADEMARK OFFICE
Patent Application Transmittal Letter

COMMISSIONER FOR PATENTS
Washington, D.C. 20231

Sir:

Transmitted herewith for filing under 37 CFR 1.53(b) is a(n): (X) Utility ( ) Design
(X) original patent application,
( ) continuation-in-part application

INVENTOR(S): Lisa A. Buckman et al.

TITLE: Structure and Apparatus for a Very Short Haul, Free Space, and Fiber Optic Interconnect and Data Link

Enclosed are:

(X) The Declaration and Power of Attorney. (X) signed ( ) unsigned or partially signed

(X) 5 sheets of drawings (one set) ( ) Associate Power of Attorney

( ) Form PTO-1449 (X) Information Disclosure Statement and Form PTO-1449

( ) Priority document(s) ( )(Other) _____(fee $_____)

CLAIMS AS FILED BY OTHER THAN A SMALL ENTITY				
(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) TOTALS
TOTAL CLAIMS	16 — 20	0	X $18	$ 0
INDEPENDENT CLAIMS	3 — 3	0	X $84	$ 0
ANY MULTIPLE DEPENDENT CLAIMS	0		$280	$ 0
BASIC FEE: Design ($330.00); Utility ($740.00)				$ 740
TOTAL FILING FEE				$ 740
OTHER FEES				$
TOTAL CHARGES TO DEPOSIT ACCOUNT				$ 740

Charge $ 740 to Deposit Account 50-1078. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 50-1078 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 50-1078 under 37 CFR 1.16, 1.17,1.19, 1.20 and 1.21. A duplicate copy of this sheet is enclosed.

"Express Mail" label no. EL 898589753 US

Date of Deposit 22 Feb. 2002

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Washington, D.C. 20231.

By _____

Typed Name: Antoinette M .Littlefield

Respectfully submitted,

Lisa A. Buckman et al.

By Lawrence A. Maxham

Lawrence A. Maxham

Attorney/Agent for Applicant(s)
Reg. No. 24,483
Date: 22 Feb. 2002
Telephone No.: (619) 233-9004